

(19) World Intellectual Property
Organization
International Bureau



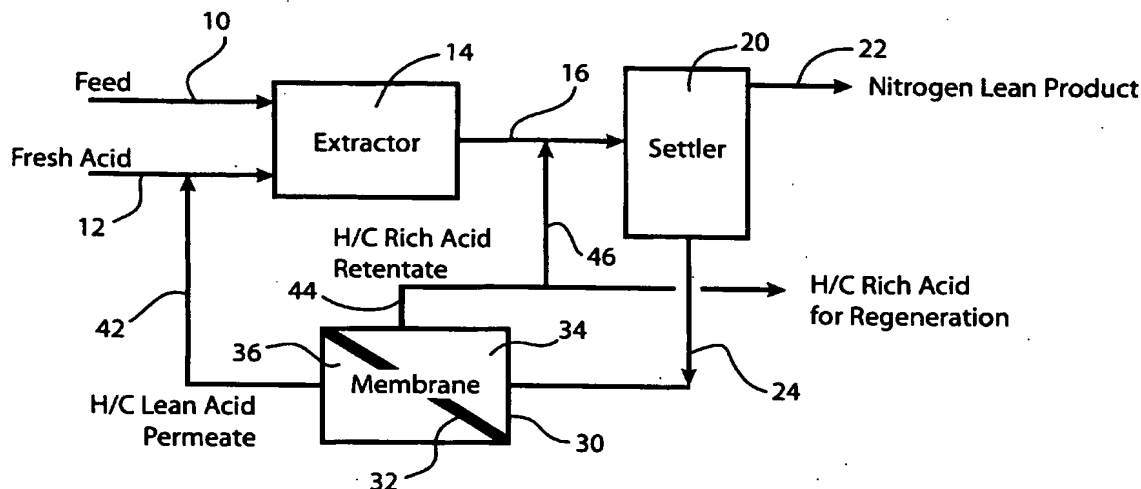
(43) International Publication Date
23 June 2005 (23.06.2005)

PCT

(10) International Publication Number
WO 2005/056727 A1

- (51) International Patent Classification⁷: **C10G 17/10**, 21/28
- (74) Agents: **HUGHES, Gerard, J. et al.**; Exxonmobil Research and Engineering Company, 1545 Route 22 East, P.O. Box 900, Annandale, NJ 08801-0900 (US).
- (21) International Application Number: PCT/US2004/040087
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (22) International Filing Date: 1 December 2004 (01.12.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: 60/527,210 5 December 2003 (05.12.2003) US
- (71) Applicant (for all designated States except US): **EXXON-MOBIL RESEARCH AND ENGINEERING COMPANY** [US/US]; 1545 Route 22 East, P.O. Box 900, Annandale, NJ 08801-0900 (US).
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **MINHAS, Bhupender, S.** [US/US]; 1007 Goose Cross Court, Bel Air, MD 21014 (US). **PEIFFER, Dennis, G.** [US/US]; 33 John Drive, Annandale, NJ 08801 (US). **BECK, Jeffrey, S.** [US/US]; 2393 Indigo Harbour Lane, League City, TX 77573 (US). **STERN, David, L.** [US/US]; 12221 Lake Estates Avenue, Baton Rouge, LA 70810 (US). **MELLI, Tomas, R.** [US/US]; 5780 Bencrest Way, Haymarket, VA 20169 (US).
- Published:
— with international search report
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: A PROCESS FOR THE ACID EXTRACTION OF HYDROCARBON FEED



(57) Abstract: This invention relates to a process for recycling acid used to remove nitrogen contaminants from hydrocarbons using polymeric membranes to separate spent acid from the acid extraction of hydrocarbons into acid for recycle and acid for regeneration.